

CLAIM AMENDMENTS

1. (Original) A method to pre-compile configuration information for a network connection device, the method including:
  - receiving a rule file defining behavioral requirements for the network connection device;
  - receiving an operations file describing operations supported by a plurality of components of the network connection device; and
  - generating a rule program, executable by the network connection device, utilizing the rule file and the operations file, wherein the rule program comprises a set of operations, selected from operations supported by the plurality of components of the network connection device, for performance by the respective components of the network connection device in accordance with the behavioral requirements defined by the rule file.
2. (Original) The method of claim 1 wherein the rule file comprises a decision tree structure.
3. (Original) The method of claim 2 wherein the rule file comprises a sequence of operations defined as IF THEN ELSE statements.
4. (Original) The method of claim 1 wherein the rule file comprises a text file.
5. (Original) The method of claim 1 wherein the operations file includes a plurality of sections, each section of the plurality of sections describing operations supported by a corresponding component of the plurality of components.
6. (Original) The method of claim 1 wherein the operations file specifies at least one process to identify a behavior and at least one context to identify a data environment to support execution of the rule program.
7. (Original) The method of claim 1 wherein the rule program is compiled as a binary object.

8. (Original) The method of claim 7 wherein the compiled binary object comprises an instruction sequence to be executed by a virtual machine hosted by the network connection device.

9. (Original) The method of claim 1 wherein the set of operations that comprise the rule program include configuration operations that determine functioning the plurality of components of the network connection device.

10. (Original) The method of claim 1 wherein the rule program links an operation of a component to a contextualized set of data.

11. (Original) The method of claim 1 wherein the rule program is authenticated by an authentication authority.

12. (Original) The method of claim 1 wherein at least a portion of the rule program is dedicated to a specific process and context, and wherein the generating of the rule program includes performing a check to determine whether a component and an operation associated with the portion of the rule program are compatible with a declared process and context of the portion of the rule program.

13. (Original) The method of claim 1 wherein the generating of the rule program includes compiling the rule program and loading the rule program into the network connection device in a manner independent of a run-time management program.

14. (Original) The method of claim 1 including executing the rule program utilizing the plurality of components of the network connection device.

15. (Original) The method of claim 14 wherein each component of the plurality of components of the network connection device registers at least one operation, and the method includes performing a consistency check between the set of operations and the operations registered by the plurality of components.

16-29 (Cancelled)

30. (Original) A machine-readable medium storing a sequence of instructions that, when executed by a machine, cause the machine to perform the method for pre-pre-compiling configuration information for a network connection device, the method including:

accessing a rule file defining behavioral requirements for the network connection device;

accessing an operations file describing operations supported by a plurality of components of the network connection device; and

generating a rule program, executable by the network connection device, utilizing the rule file and the operations file,

wherein the rule program comprises a set of operations, selected from operations supported by the plurality of components of the network connection device, for performance by the respective components of the network connection device in accordance with the behavioral requirements defined by the rule file.

31. (New) A method of pre-compiling configuration information for a network connection device having a plurality of components and hosting a virtual machine and a virtual machine compiler, the method comprising:

receiving an operations file at the virtual machine compiler, the operations file identifying at least one component of the plurality of components and containing a list of allowed operations associated with the one component,

receiving a rule file at the virtual machine compiler, the rule file containing at least one behavioral requirement for controlling the network connection device and at least one operation associated with the one behavioral requirement, and

compiling the rule file and the operations file by the virtual machine compiler to generate a rule program executable by the virtual machine, the rule program containing at least one operation, selected from the list of allowed operations provided by the operations file and corresponding to the one operation contained in the rule file, for performance by the one component in accordance with the one behavioral requirement.

32. (New) The method of claim 31 comprising receiving a plurality of operations files at the virtual machine compiler, each operations

file corresponding to a respective component of the network connection device and containing a list of operations associated with the respective component, and compiling the plurality of operations files and the rule file by the virtual machine compiler to generate the rule program.

33. (New) The method of claim 31 wherein the rule file comprises a decision tree structure.

34. (New) The method of claim 33 wherein the rule file comprises a sequence of behavioral requirements defined as IF THEN ELSE statements.

35. (New) The method of claim 31 wherein the operations file includes a plurality of sections, each section of the plurality of sections describing operations supported by a corresponding component of the plurality of components of the network connection device.

36. (New) The method of claim 31 wherein the operations file specifies at least one process to identify a behavior and at least one context to identify a data environment to support execution of the rule program.

37. (New) The method of claim 31 wherein the one operation contained in the rule program is a configuration operation that determines functioning of the plurality of components of the network connection device.

38. (New) The method of claim 31 wherein the rule program links an operation of a component to a contextualized set of data.

39. (New) The method of claim 31 comprising authenticating the rule program by an authentication authority.

40. (New) The method of claim 31 wherein at least a portion of the rule program is dedicated to a specific process and context, and wherein the virtual machine compiler performs a check to determine whether a component and an operation associated with the portion of

the rule program are compatible with a declared process and context of the portion of the rule program.

41. (New) The method of claim 31 wherein the virtual machine compiler compiles the rule program and loads the rule program into the network connection device in a manner independent of a run-time management program.

42. (New) A method of operating a network connection device for receiving network traffic and transmitting the network traffic according to a policy determined by rules, the network connection device having a plurality of components and hosting a virtual machine and a virtual machine compiler, the method comprising:

receiving an operations file at the virtual machine compiler, the operations file identifying at least one component of the plurality of components and containing a list of allowed operations associated with the one component,

receiving a rule file at the virtual machine compiler, the rule file containing at least one behavioral requirement for controlling the network connection device and at least one operation associated with the one behavioral requirement,

compiling the rule file and the operations file by the virtual machine compiler to generate a rule program executable by the virtual machine, the rule program containing at least one operation, selected from the list of allowed operations provided by the operations file and corresponding to the one operation contained in the rule file, for performance by the one component in accordance with the one behavioral requirement, and

executing the rule program and thereby controlling the behavior of the network connection device.